*"Developing Technology & Solutions for the Fleet"*

*POC: Dr. James H. Wynne*
*Code 6120*
*Naval Research Laboratory*
*Washington, DC 20375*
*Phone: (202) 404-4010*
*E-mail: jwynne@ccs.nrl.navy.mil*

# Dust Abatement: Reducing Brownout Conditions for Helicopter Operations

Chemistry Division
Naval Research Laboratory
Washington, DC 20375

***BACKGROUND***

During Operation Iraqi Freedom, military operations were severely impacted due to tremendous amounts of airborne sand and dust. The loss of helicopters due to poor visibility (brown-outs) during landings required an immediate response. Within hours of receiving the call, NRL provided a solution. Employing an affordable, sugar-polymer, biodegradable, environmentally friendly, water-based solution, NRL was able to treat desert surfaces preventing large amounts of dust and sand from becoming airborne during helicopter approach and landings.

Untreated

Treated with NRL Solution

## Benefit Over Current Technology

- Non-Toxic, Non-Flammable, Biodegradable
- Increased Binding Strength
- Ease of Preparation and Application in Theater
- Hot Dry Conditions Increase Effectiveness
- Immediate Use After Application
- Effective on Wide Array of Particle Sizes
- Increased Shelf-Life
- Self-Healing of Damaged Surfaces
- Brackish & Marine sources are effective
- Inexpensive (<$0.80 per gallon)

***Quick Simple Application***

A polymeric solution is simply sprayed as a light mist onto the helicopter landing zone and is immediately ready for use. The ingredients make the application from a fire truck or an all terrain vehicle ideal for forward positions.